

Notice of Allowability

Application No.

10/817,004

Examiner

A. Sefer

Applicant(s)

YAMAMOTO ET AL.

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 1/10/2007.
2. ☒ The allowed claim(s) is/are 6-8, 10, 24 and 25.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date 3/30/07.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 3/30/07.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed January 10, 2007 has been entered; no new claims have been introduced.

Election/Restrictions

2. This application is in condition for allowance except for the presence of claims 1-5, 9 and 21-23 directed to a species non-elected without traverse. Accordingly, claims 1-5, 9 and 21-23 have been cancelled. Furthermore, claims 8, 10, 24 and 25 -- additional species which are in dependent form of an allowed generic claim as provided by 37 CFR 1.141 -- have been rejoined.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Juan Marquez on 3/30/2007.

A corrected drawing replacing fig. 11A (reference numeral 71 will be replaced with numeral 73) will be submitted.

The application has been amended as follows:

In the Claims:

In claim 7, line 4, insert -- , -- before "between"

In claim 24, line 2, replace -- first-- with "a"

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In claim 24, line 2, insert --first-- after “said”

In claim 24, line 3, insert --conductive type silicon layer-- after “first”

In claim 24, line 3, insert --between said second nitride film of refractory metal and said-- before “second”

In claim 24, line 3, insert --type-- after “conductive”

In claim 24, line 3, replace -- layers-- with “layer”

Allowable Subject Matter

4. Claims 6-8, 10, 24 and 25 are allowed.

5. The following is an examiner’s statement of reasons for allowance: A closely related art, Nakamura et al. USPN 6,329,681, discloses a semiconductor integrated circuit device comprising: a first conductive region and a second conductive region formed on a semiconductor substrate and separated by an isolation region; a second conductive silicon layer a which is deposited on said first conductive region, a first conductive silicon layer which is deposited on said second conductive region, a boundary between said first conductive and second conductive silicon layers being located over said isolation region, a first refractory metal film formed on a first nitride film of refractory metal formed on said first conductive type silicon layer and a second refractory metal film formed on a second nitride film of refractory metal formed on said second conductive type silicon layer. However, claim 6 requires a metal carbide formed between said first nitride film of refractory metal and said second nitride film of refractory metal, between said first refractory metal film and said second refractory metal film, and on said boundary between said first conductive and second conductive silicon layers. The above limitations in

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combination with other claim limitations are not taught or fairly suggested by the prior art nor would it be obvious to modify the references of record so as to yield the device of the instant application.

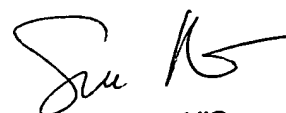
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Sefer whose telephone number is (571) 272-1921.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sue Purvis can be reached on (571) 272-1236.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ANS
March 30, 2007


SUE A. PURVIS
SUPERVISORY PATENT EXAMINER